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| 10/519,170 | 12/20/2004 | Malcolm Green | ISI-005US | 5297 |
| 959 | 7590 | 11/15/2006 | EXAMINER | |
| LAHIVE & COCKFIELD, LLP | | | HAILEY, PATRICIA L | |
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| BOSTON, MA 02109-2127 | | | PAPER NUMBER | |

1755

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,170

Applicant(s)

GREEN ET AL.

Examiner

Patricia L. Hailey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-19 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/20/04, 04/18/06, 08/09/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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Applicants' Preliminary Amendment, filed on December 20, 2004, has been made of record and entered. No claims have been canceled or added; claims 1-19 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on December 20, 2004.

Claim Objections

2. ***Claim 8 is objected to because of the following informalities:***

Claim 8 is objected to because the element "Mg" is recited twice (line 3, after "Y" and after "Cr").

3. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. ***Claims 1, 2, 4-9, 11, and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by White et al. (U. S. Patent No. 5,672,558).***

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White et al. disclose a process for preparing formed Group IVB metal oxide compositions suitable for use as catalyst supports, said process comprising preparing a paste comprising one or more calcined Group IVB metal oxides, at least one solvent, and at least one acid, forming a shaped particle from said paste, and drying and calcining the shaped particle. See col. 1, lines 51-64 of White et al. (considered to read upon steps (b), (c), and (i) and (iii) of step a in **claim 1**, and upon **claims 5 and 11**).

Exemplary solvents include water and alcohols; exemplary acids include organic acids, inorganic acids, and mixtures thereof. See col. 2, line 46 to col. 3, line 10 of White et al. (considered to read upon **claims 2, 6, and 9**).

The paste prepared by the instant process may also contain agents such as activated carbon, in amounts of from about 0.5 to about 20% by weight of the paste. See col. 3, lines 11-25 of White et al. (considered to read upon **claim 15**).

White et al. also disclose that Patentees' metal oxide compositions may also contain therein or supported thereon catalytically active components or promoter materials. In such a case, the aforementioned paste prepared as disclosed above further comprises at least one catalytic component and/or promoter material. See col. 3, lines 44-55 of White et al.

The calcined Group IV metal oxide, solvent, acid, optional agent, catalytic component and/or promoter materials are mixed or milled to produce a paste. A formed particle is then prepared from the paste, and then calcined in air or an inert gas at a temperature of from about 400 to about 1100 C. See col. 3, line 56 to col. 4, line 15 of White et al. (considered to read upon **claims 7, 13, and 14**).

Examples of the catalytically active components or promoter materials include those chosen from the elements of Groups IB through VIIB and VIII (e.g., iron, chromium, manganese, cobalt, nickel, molybdenum, tungsten, copper, and zinc), and sodium and/or other alkali metals. See col. 4, lines 40-59 of White et al., as well as col. 5, lines 27-35, which discloses amounts for the catalytically active component and for the promoter (considered to read upon **claims 18 and 19**).

The formed compositions "can be applied in any process in which a Group IVB based catalyst can be used or is required." Exemplary processes include hydrogenation, hydrocracking and oxidation. See col. 5, lines 36-45 of White et al. (considered to read upon **claims 16 and 17**).

In view of these teachings, White et al. anticipate claims 1, 2, 4-9, 11, 13, and 17.

6. Claims 1, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugier (U. S. Patent No. 3,787,332).

Sugier teaches a shaped particulate agglomerated catalyst (comprising mixed oxides of copper, aluminum, chromium, manganese, iron, or cobalt; see col. 1, lines 26-45), prepared by dissolving precursor salts which decompose to the final oxide, wherein said salts may be dissolved in either a neutral, basic, or acid aqueous solution, or conventional solvent (col. 3, lines 2-15), and adding thereto a complex-forming substance (e.g., carboxylic acids such as citric or tartaric acid). The resulting solution may be concentrated to produce a viscous homogeneous liquid or an amorphous solid,

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which is then subjected to heat decomposition (in air or in a reducing, oxidizing, or neutral atmosphere) to produce an oxide. See col. 3, lines 46-68 of Sugier.

In view of these teachings, Sugier anticipates claims 1, 9, and 10.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (U. S. Patent No. 5,672,558).

White et al. is relied upon for its teachings in the above 102(b) rejection. White et al. do not define Patentees' composition as a "Fischer-Tropsch synthesis" or "steam reforming" catalyst or catalyst precursor. However, the reference teaches the claimed components, as well as respective amounts of said components corresponding to that recited in claims 18 and 19. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to reasonably expect the composition disclosed in White et al. to suitably function as a "Fischer-Tropsch synthesis" or "steam reforming" catalyst, absent the showing of convincing evidence to the contrary.

Allowable Subject Matter

11. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Claim 12 is objected to because the prior art of record, while teaching heat/thermal decomposition and calcining at the claimed temperatures, does not teach or suggest a combustion time of 15 minutes or less.

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Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patricia L. Hailey/plh
Examiner, Art Unit 1755
November 13, 2006



J.A. LORENZO
SUPERVISORY PATENT EXAMINER